

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application. In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Claims 1-13 are now present in this application. Claim 1 is independent. Claims 1 and 13 have been amended. No new matter has been added. Reconsideration of this application, as amended, is respectfully requested.

Obviousness-Type Double Patenting Rejection

Claims 1-13 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-11 of a copending U.S. Patent Application No. 10/579,194 in view of Zha et al. Applicants will address this provisional rejection when allowable subject matter is indicated.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claim 1-13 stand rejected under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Office Action states that the recitation of “wherein each pair of the at least two pairs of module headers has two module headers inserted into the two module bodies respectively ...” in claim 1 is indefinite because it is not clear how the each pair of two module headers has two additional module headers.

Claim 1 has been amended to recite, “wherein the first and second module headers of each of the at least two hollow fiber membrane units are inserted into the first and second module bodies respectively through the corresponding hollow fiber membrane spaces of the first and second plate type module header insertion layers such that the bundle of hollow fiber membranes are in fluid communication with the permeated water collection space and the module headers inserted into each module body are spaced apart from each other by the hollow

fiber membrane spaces of each plate type module header insertion layer.” Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections under 35 U.S.C. §103

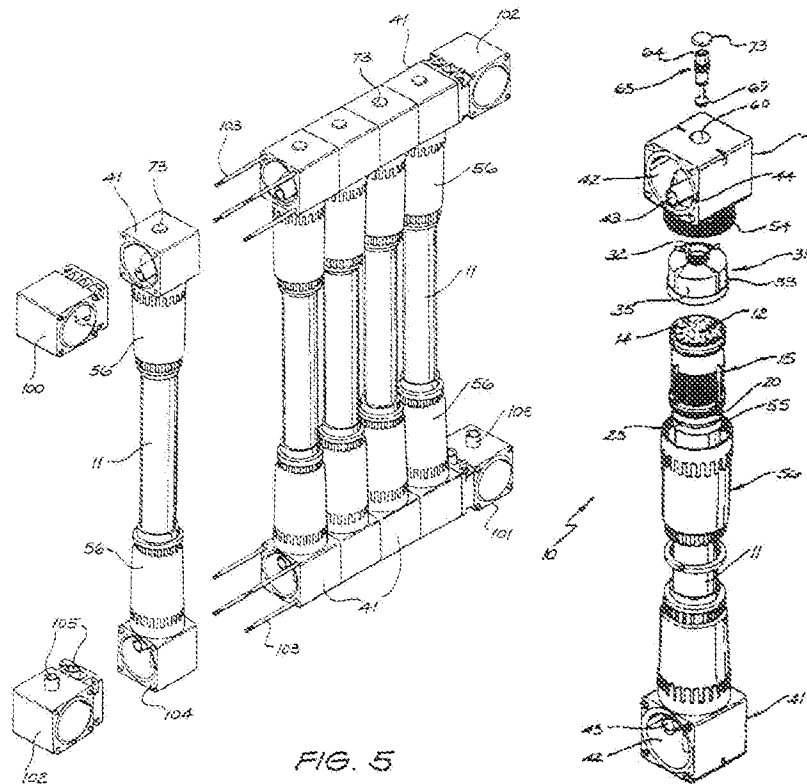
Claims 1-7 and 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Selbie et al. in view of Zha et al. Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Selbie et al. in view of Zha et al., as applied to claims 1 and 6, and further in view of Cote et al. Claims 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Selbie et al. in view of Zha et al., as applied to claim 1, and further in view of Koenhen. These rejections are respectfully traversed.

Applicants thank the Examiner for discussing this case with Applicant’s representative on September 15, 2009. During the discussion, Applicants’ representative explained the features of the invention that distinguish the present invention from the prior art. The Examiner clarified the Office Action and stated that the header 41 of Selbie et al. is equated to the module header of the claimed invention, while the threaded portion 54 of Selbie et al. is equated to the plate type module header insertion layers of the claimed invention. The Examiner agreed that the plate type module header insertion layers of the present invention are not disclosed in Selbie et al., and suggested amending the independent claim to clarify the features. The claims have been amended in the manner discussed during the interview.

In particular, independent claim 1 has been amended to recite, among other features, first and second module bodies, first and second plate type module header insertion layers each of which has a plurality of hollow fiber membrane spaces disposed apart from one another, first and second plate type diffusion layers which are provided at an upper portion thereof with an air injection port, at least two hollow fiber membrane units, each hollow fiber membrane unit including first and second module headers and a bundle of hollow fiber membranes disposed between the first and second module headers, wherein the first and second module headers of each of the at least two hollow fiber membrane units are inserted into the first and second module bodies respectively through the corresponding hollow fiber membrane spaces of the first and second plate type module header insertion layers such that the bundle of hollow fiber

membranes are in fluid communication with the permeated water collection space and the module headers inserted into each module body are spaced apart from each other by the hollow fiber membrane spaces of each plate type module header insertion layer.

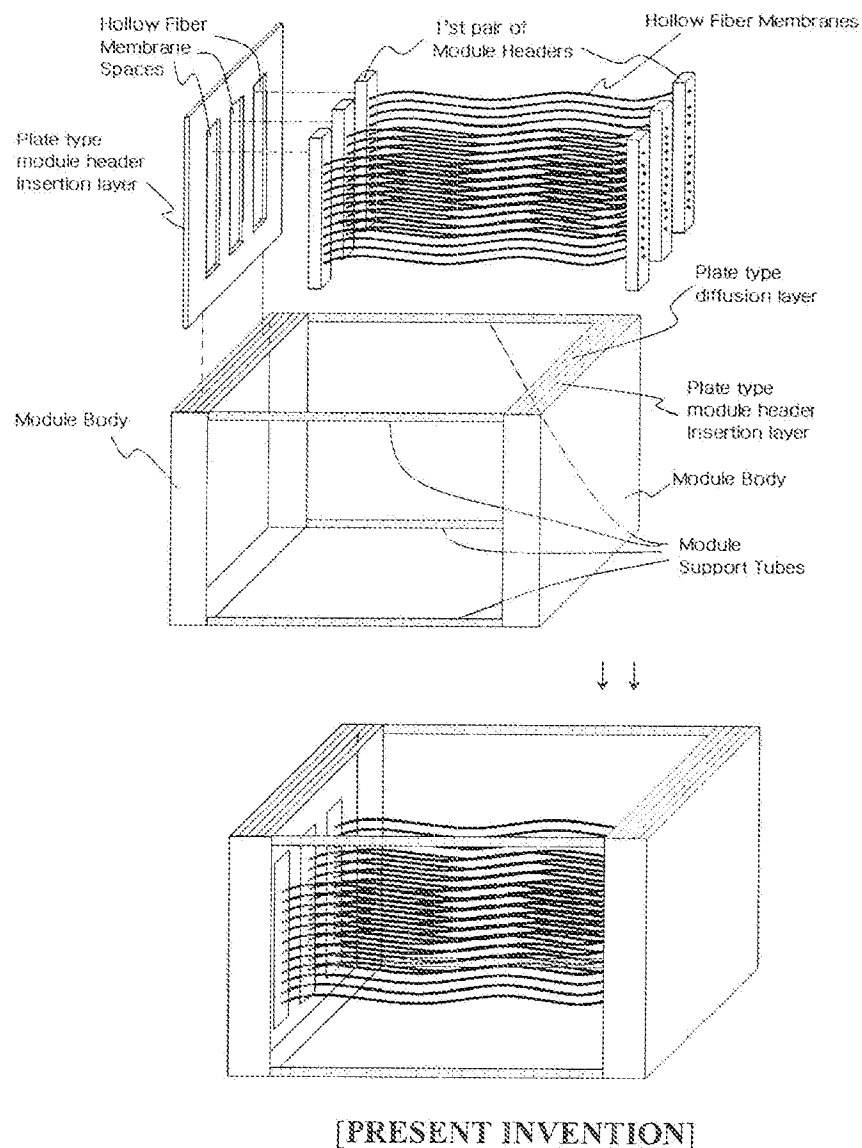
As discussed during the interview, Selbie et al. discloses a threaded portion 54, where a filtrate cup 31 is inserted, and the fiber 14 is connected with the filtrate cup 3. As shown in Fig. 5 of Selbie et al., there are multiple pairs of the threaded portions 54 for multiple fibers 14 that are connected to multiple pairs of filtrate cups 31 in Selbie et al.



[FIG. 5 OF SELBIE ET AL.]

However, in the present invention, there is only one pair of plate type module header insertion layers for multiple hollow fiber membranes that are connected to multiple pairs of module headers. Rather than a single pair of the threaded portions 54 for multiple pairs of filtrate cups 31, in Selbie et al., multiple pairs of the threaded portions 54 are needed for multiple

pairs of filtrate cups 31, as shown in Fig. 5 of Selbie et al. Therefore, Selbie et al. does not teach or suggest that the first and second module headers of each of the at least two hollow fiber membrane units are inserted into the first and second module bodies respectively through the corresponding hollow fiber membrane spaces of the first and second plate type module header insertion layers, as recited in amended independent claim 1. Further, the other cited references fail to overcome the deficiencies of Selbie et al. Therefore, the cited references fail to teach or suggest these features of amended independent claim 1.



Accordingly, it is respectfully submitted amended independent claim 1, and each of the claims depending therefrom, are allowable.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Jun S. Ha, Registration No. 58,508, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: September 21, 2009

Respectfully submitted,

By 

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